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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/529,425 | 09/16/2005 | Gerhard Lammel | 10191/4133 | 4531 |

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| EXAMINER | |
|---|---|
| GOUDREAU, GEORGE A | |
| ART UNIT | PAPER NUMBER |
| 1792 | |
| MAIL DATE | DELIVERY MODE |
| 12/12/2008 | PAPER |

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

| Office Action Summary | Application No. | Applicant(s) | |
|---|---|---|---|
| | 10/529,425 | LAMMEL ET AL. | |
| | Examiner | Art Unit | |
| | George A. Goudreau | 1792 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *19 September 2008*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *10 and 12-17* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *10 and 12-17* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

1. Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

2. This action will not be made final due to the new grounds of rejection.

3. The drawings are objected to because the lettering, and numbering of the drawings is difficult to read. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

4. Applicant's arguments with respect to claims of record have been considered but are moot in view of the new ground(s) of rejection.

5. Claims 10, and 12- 17 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

-In the claims, applicant's usage of the terms "producing" or "produced" is vague, and indefinite. (i.e.-What is constitutes producing or being produced? In the prior art of record which is used to reject applicant's claims, the functional layer could be considered as being produced in several different steps, and not a single step as applicant purports. This is based upon the fact that the functional layer only becomes functional after the sacrificial porous Si has been removed so that the active portions of the device can properly move.); and

-Claim 17 is redundant upon claim 10.

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 10, 12, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Sakata et. al. (JP 06-324,074).

Sakata et. al. disclose a process for fabricating micro-mechanical components (i.e.-a Si beam with a sensor on its end) in a cz-Si wafer by conducting the following sequence of steps:

-A series of P type Si layers (11, 13) are formed in the surface of a cz-Si wafer (1). An N type Si layer (12) is used to separate the P type Si layers from

each other.;

-A Si3N4 passivation layer (8) is formed onto the surface of the wafer.;

-Porous Si regions are formed in the P type Si regions using an HF anodization process.; and

-The porous Si is removed from the surface of the wafer using a wet etching process to leave behind micro-mechanical components which functions as a patterned functional layer.

This is discussed specifically in the abstract; and discussed in general on pages 1-11. This is shown specifically in figure 2; and shown in general in figures 1-24.

8. Claims 10, 12-13, and 17 are rejected under 35 U.S.C. 102(b) as being anticipated by Benz et. al. (5,542,558).

Benz et. al. disclose a process for fabricating micro-mechanical components which is comprised of the following steps:

-The top surface of a p-type cz-Si wafer (2) is implanted with an n type dopant in a region (3).;

-An upper Si cover layer (1) is formed onto the surface of the wafer.;

-Trenches are etched into the upper Si layer (3).;

-The n-doped Si region (3) is selectively converted into porous Si using an anodization process.; and

-The porous Si layer is selectively removed from the wafer using a wet etching process to leave behind a micro-mechanical structure (6) which serves as the patterned, functional layer.

This is discussed in columns 1-6. This is shown in figures 1-2.

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

10. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

11. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over the references as applied in either paragraphs 7 or 8 above.

The references as applied in either paragraphs 7 or 8 above fail to disclose the following aspects of applicant's claimed invention:

-the specific dry etching of the porous Si layer to remove it from the wafer surface

It would have been obvious to one skilled in the art to employ a dry etching process to remove the porous Si layer in either of the processes taught in paragraphs 7 or 8 above based upon the following. The usage of a dry etching process to remove a porous Si layer from a wafer is conventional or at least well known in the etching arts. (The examiner takes official notice in this regard.) Further, this simply represents the usage of an alternative, and at least equivalent means for removing the porous Si layer in the processes which are taught above to the wet etching processes which are specifically used to remove the porous Si layer in the processes which are taught above.

12. Any inquiry concerning this communication should be directed to examiner George A. Goudreau at telephone number 571-272-1434.

/George A. Goudreau/
Primary Examiner, Art Unit 1792